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Tackling the global challenge of Illegal Wildlife Trafficking and Trade

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List of abbreviations

AKTF	Anne Kent Taylor Fund
CBNRM	Community- Based Natural Resource Management
CIDT	Centre for International Development and Training, University of Wolverhampton
CITES	The Convention on International Trade in Endangered Species of Wild Fauna and Flora
CJ	Conservation Justice
CoP	Conference of Parties (of CITES)
Covid-19	Coronavirus disease 2019, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)
DFID	Department for International Development
DRC	Democratic Republic of Congo
EU	European Union
FDLR	Democratic Forces for the Liberation of Rwanda
HWC	Human- Wildlife Conflict
IIED	The International Institute for Environment and Development
IUCN	International Union for Conservation of Nature
IWT	Illegal Trade in Wildlife
LAGA Cameroon	The Last Great Ape Organisation, Cameroon
NGO/NGOs	Non- Governmental Organisation (s)
PA/PAs	Protected Area (s)
RALFF	Strengthening Wildlife Law Enforcement in Central Africa Project
SARS	Severe Acute Respiratory Syndrome
TEK	Traditional Ecological Knowledge
UK	United Kingdom
UNEP	United Nations Environment Programme
UNODC	United Nations Office on Drugs and Crime
USA	United States of America
WWF	World Wide Fund for Nature

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Introduction

As part of the Strengthening Forest Monitoring and Wildlife Law Enforcement projects led by the Centre for International Development and Training (CIDT) and Conservation Justice in the Congo Basin, focused on sustaining and institutionalising the role of civil society in countering forest and wildlife crime, CIDT is leading research on various issues relevant to this topic.

This paper provides an overview of literature on illegal wildlife trade (IWT) and particularly on the responses and tools implemented to curb and combat this issue and related crimes. It explores approaches adopted at site level against poaching but also initiatives undertaken by different stakeholder groups to fight trafficking and prosecution of offenders. With the failure of traditional regulatory and law enforcement options, complementary solutions which focus on alternative livelihoods, working with communities and civil society organisations on wildlife monitoring, investigations, prosecution and collaborative law enforcement with government agencies need strengthening. Fighting corruption and strengthening law enforcement capabilities remain critical. Multi-stakeholder collaborative research and evidence is critical in informing policy decision making but also providing the ammunition required by civil society for research informed advocacy campaigns. Improving transparency in the sector through community monitoring, investigations, media coverage and use of modern technologies provide opportunities for naming and shaming and exposing the *modus operandi* of criminal networks operating in the area. Linking national advocacy efforts to global governance frameworks such as CITES provide additional frameworks for addressing the underlying drivers of this trade.

The Problem and drivers

Illegal wildlife trade (IWT) involves the illegal capture, collection, hunting, poaching, trade and smuggling of endangered, protected wildlife, derivatives and or its products (Maher and Sollund, 2016). In addition to small scale hunting by relatively local people mainly for subsistence[1] and large scale illegal hunting by armed non state and state actors (Ondouaet al., 2017), IWT involves complex transnational crime networks which strive from direct engagement or sponsorship of these activities(Wittig, 2016). IWT is at the heart of the relationship between the conservation of biodiversity, health and sustainable development. It has major implications on “Global Health” which depends on human health, animal health and environment health. The trade in illegally harvested wildlife , products and derivatives is a big business, estimated to be worth billions of dollars annually and involves a large network of actors (hunters/ collectors- buyers- middlemen- sellers, transporters- consumers…) (United Nations Office on Drugs and Crime, 2020). IWT is growing fast suggesting that current tools and responses have been inadequate (Maher and Sollund, 2016). This information note reviews some of these responses, their strengths and weaknesses and reflects on some ways forward.

It is widely accepted the impacts of IWT go beyond the loss of biodiversity and livelihoods for those who depend on them, but also extend to other socio economic and security threats to nation states and internationally(Kassa et al., 2019).It is estimated that about 75% of newly emerging infectious diseases are zoonoses derived partly from illegally harvested and traded species. A wide range of traditional Chinese medicines are made from wildlife products, such as pangolin scales, snake bile, and bat faeces which increases the risk of transmission of diseases (Wang et al., 2020).The 2002-2003, severe acute respiratory syndrome, or SARS emerged from wet wildlife markets in China and subsequently spread to over 26 countries worldwide caused by a zoonotic coronavirus (Wittemyer, 2020). The Ebola epidemic in West Africa (Gebreyes et al., 2014) and the global COVID 19 pandemic are stack reminders of the global catastrophic impacts of trade in wildlife species (Anderson et al., 2020).

IWT unfortunately also traps states in a vicious circle where, as they lose massive income due to illegality, they become even less capable to properly govern their natural resources (Nelleman et al., 2016). The London Conference on Illegal Wildlife Trade in October 2018 admitted that in addition to corruption and associated illicit financial flows, the illegal wildlife trade was taking resources away from government revenues. In that context, participating governments agreed to work together, considering IWT as a serious and organized crime. The conference also stressed on the need to work in partnerships to address local livelihoods, capacity building for wildlife management departments, and engagement with local communities, the private sector, NGOs and academia in these fields (Government of United Kingdom, 2019).

Increasingly, IWT fuels the development and expansion of organized crime including terrorist and militia groups (Ondoua et al., 2017). A recent Interpol report suggested that environmental crime has become the largest driver of conflict in the world (Nelleman et al., 2016). This category of crime which includes logging, poaching and trafficking of a wide range of animals, illegal fisheries, illegal mining and dumping of toxic waste, is now worth $110-281 billion annually. Wildlife trafficking alone is the fifth most profitable criminal activity globally (Kassa et al., 2019). In the east of the Democratic Republic of Congo alone, environmental crime was approximately $770 million in 2018, about 20% more than the country’s budget the same year[2]. According to Lawson and Vines (2014), terrorist groups and armed militias are heavily involved in illegal poaching of elephants for ivory trade and hunting of other rare and endangered animals. They have developed a large transnational illicit network for the trade of such products: such as the Janjaweed militia in Chad, the Somali warlords who have developed connexions with poachers in Kenya. Lawson and Vines (2014) showed that elephant poachers in DRC were connected to other militia groups such as the Democratic Forces for the Liberation of Rwanda (FDLR) and the Mai Mai rebel groups.

1. Not the focus of this information note
2. See: https://www.reuters.com/article/congo-budget/congo-cabinet-says-adopts-2018-budget-of-65-bln-idUSL8N1NK8ZV

State failure and weak law enforcement

In addition to the demand side issues raised earlier, one of the other main drivers of global trade in illegal wildlife species has been the failure of national governments and multilateral agencies to monitor and enforce wildlife legislation. The failure of national governments to address these challenges have led to calls for multi-stakeholder governance processes beyond government (Cashore and Stone, 2012). Since 2012, according to Biggs et al. (2017), efforts to address the problem of wildlife crime have attracted more than 350 million US dollars in funding from governments and other donors including the implementation of several high-level intergovernmental policy initiatives at national, regional and international levels.

These include amongst others, initiatives summarized in the following table:

Table 1: Regional and international initiatives against IWT

Initiative	Date
The London Conference on Wildlife	2014 and 2018
UN General Assembly Resolution	2015
The Brazzaville - African Union International Conference on Illegal Exploitation and Illicit Trade in Wild Flora and Fauna in Africa	2015
Congo Basin Forest Partnership in Ndjamena	2019
COMIFAC initiative	2019
CITES Conference of parties (CoP)	Takes place every 3 years (the last three CoPs took place in 2013, 2016 and 2019)

Source: compiled by authors

There is recognition that tackling this challenge requires a coordinated, multifaceted/multi-stakeholder approach, including a wide range of actors and actions on the ground beyond governments, international wildlife protection NGOs, international donors and regulatory bodies, local communities, national and transnational civil society, as well even those involved in the illicit trade (Lawson and Vines, 2014).

However, there continues to be limited understanding of what mix of tools is required to attain human security and development objectives while protecting the natural biodiversity. Sunderlin (2005) had already called for increased research on these issues arguing that policy makers often lacked understanding of the diverse links between forests, livelihoods and conservation objectives. This information note seeks to continue this discussion through a review of ongoing responses to the problem of IWT in its broad sense including anti-poaching[3] and anti-trafficking, particularly in developing country contexts.

Current responses and tools

Responses to the IWT problem can be classified broadly into two main categories: regulatory and non- regulatory responses. Regulatory responses focus on institutional/rule setting and law enforcement often taking a conservationist "hard perspective"; while non regulatory approaches take a "soft perspective" and stress the role of local communities, local knowledge and livelihoods in addressing IWT challenges (Biggs et al., 2017). The following sections review existing responses and tools identified in the literature, to highlight that various mixtures of regulatory and non-regulatory approaches are used, according to the local context and in response to different aspects of this complex phenomenon.

Regulatory policy responses

Historically, most of the policy responses adopted by governments to the problem of IWT, especially in African countries, have been regulatory in nature, characterised by top down, centrally planned approaches, and in many cases driven by external pressure from foreign governments, donors and international development/ conservation agencies. Examples included the creation of socially exclusive national parks and protected areas (PAs), the introduction of new or more rigid legislations, the establishment of more trade controls, and engagement with international treaties, such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). In the following paragraphs, we aim to briefly present some of these options.

Legislations and international regulations

Most countries in the world have some form of legislation around the harvest and trade in wildlife and wildlife products. These laws and regulations are designed in most cases to promote sustainable management of these resources. While some of the legislation is proactively designed to address current and future challenges, a lot tends to happen reactively in response to unforeseen governance failings. Under Prime Minister Indira Gandhi, India passed the Wildlife (Protection) Act of 1972 to create new protected areas, banned export of tigers and leopard skins, and secured international funding for conservation efforts (Johnson et al., 2018). In Cameroon, the main law regulating forests, fauna and fishing is law number 94/01, issued in 1994, in addition to a number of relevant decrees and executive orders (Djeukam et al., 2012); while in Gabon, the main law dealing with wildlife, law number 16/2001, was promulgated later in time, in December 2001 (Christy, 2012). Following the outbreak of the Coronavirus in China, the country's top legislature comprehensively prohibited the consumption of terrestrial wildlife to protect public health (Wang et al., 2020). Neighbouring countries such as Vietnam have also initiated new legislative processes to stop illegal trading and consumption of wildlife over fears

it spreads disease (Humphrey, 2020). While these latest legislative efforts have widely received global acclaim (Wittemyer, 2020), many observers argue that where legislation exist, often it is poorly designed, providing many loopholes which not only limit their enforcement but also exclude other stakeholders with the ability to monitor and enforce it such as communities and civil society (Mbzibain and Ongolo, 2019).

In most of Central Africa, most countries have inherited their legal systems from their former European colonizers, with centralized land rights and ownership of wildlife and land mainly in the hands of the State. Throughout Central Africa, wildlife hunting is officially banned and only permitted through special licences yet, bush meat is readily accessible in the region (Roe and Jack, 2011). In Cameroon for example, the law No. 94/01 of January 1994, is the main legislative text dealing with Forestry, Wildlife and Fisheries, along with its subsequent orders and decrees. This law only recognizes the right of the Cameroonian state agencies, especially the officials of forestry, wildlife, fishery and merchant shipping services (serving as judicial police officers) to identify and report law violations concerning protected species. They are the only ones with the legal ability to bring cases to the state prosecutor (Djeukam et al., 2012). This limits community engagement and accountability amongst forestry and wildlife officials. Recent efforts by local and international NGOs[4] to forge collaborative efforts with traditional law enforcement agencies such as the police and the judiciary highlight opportunities for improving law enforcement through stronger citizen engagement (Mbzibain and Nkuintchua, upcoming). International cooperation also has a role to play in law enforcement.

The primary international framework for prevention of loss of endangered species due to international wildlife trade is the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). This treaty, which has been ratified by 183 countries in 1973, has entered into force in 1975, in order to coordinate and regulate international trade in wildlife products. The strongest tool the CITES has for protection is to include a specific specie to its list in Appendix I, which restricts international trade in the specified species to "exceptional circumstances only". In other words, an international trade ban is placed on all specimens included in this list, or their body parts, for commercial purposes at national or international levels. CITES has another list of species in its Appendix II, which requires monitoring in trade in those species. In other words, trade in the species mentioned in Appendix II requires an export permit, which can only be issued after the determination of the level of trade allowed based on their survival rate and that all specimens are obtained according to the national laws. All parties of the CITES meet regularly (every 3 years) at a Conference of Parties (CoP), where they vote on listing decisions of different species in Appendix I or II, while the Appendix III contains species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling

3. Poaching is the illegal killing, trapping or capture of any animal for the express purpose of either personal need or financial gain (Ondoua et al., 2017). Ondoua and colleagues identify three levels including small legal hunting by local communities for subsistence/bushmeat, small illegal hunting by communities and large scale illegal hunting by armed state and non state actors.

4. https://www.eagle-enforcement.org/

the trade. Changes to Appendix III follow a distinct procedure from changes to Appendices I and II, as each Party's is entitled to make unilateral amendments to it[5].

The main reference for including wild fauna in its appendices is the Red List of the International Union for Conservation of Nature (IUCN). The Red List represents an authoritative body of scientific knowledge on different species and the risks they face in terms of extinction. While CITES largely depends on the IUCN Red List for the identification of the species in need of protection, research highlights that there is a significant delay in the application of the scientific knowledge of the IUCN to the policy formulation at the CITES level. First, it takes CITES a minimum of three years to respond to IUCN's assessments. Second, analysts like Frank and Wilcove found out that there is still a significant gap in the protection of endangered species from international trade, as almost 28% of the species in the IUCN Red List were not included in any of the CITES appendixes (Frank and Wilcove, 2019).

Law enforcement

A key recommendation from the global IWT conference hosted by the UK government in 2014 was the need to strengthen wildlife law enforcement at both site and national levels (Henson et al., 2016). Henson et al. propose three main strategies for effective law enforcement including; (a) strengthening law enforcement patrols at site level to fight poaching; (b) building law enforcement management capacities in leadership, planning and resources mobilisation and (c) mobilising intelligence and investigations for law enforcement operations, arrests and prosecution of wildlife crime perpetrators.

The use of rangers and patrols as an anti-poaching strategy is widely documented including its strengths and weaknesses (Ondoua et al., 2016; Moreto et al., 2016). The primary responsibility of wildlife rangers in protected areas is to ensure the territorial integrity and safety for an area of responsibility. Unfortunately, because of increased militarisation and heavy arms/rangers being shot at (Jooste and Ferreira, 2018; Bouche et al., 2012); more and more rangers and patrols are being asked to play a stronger law enforcement role. In some cases, this actually entails applying military principles in wildlife law enforcement.

This legitimised use of violence by the governments is usually justified by discourses around how certain endangered species, such as elephants or tigers, represent a part of their national heritage and that they are on the brink of extinction (Sherstha and Lapeyere, 2018).The creation of military buffer zones has been reported to reduce poaching around protected areas where government presence is weak or absent. Military tactics and technology are used in the "modernization" of conservation efforts but also to demonstrate focus of the state's strategic security interests. More researchers are now referring to this increased use of military and paramilitary technology, practices and personnel as "green militarization" (Lunstrum, 2014). This approach has proven to be, to say the least, controversial. This "war on poaching" had, for example, severe consequences in Tanzania. Since the Tanzanian president Jakaya Kikwete ordered a military approach to enforce the ban on elephant and rhino poaching in October 2013, it was proven by a parliamentary enquiry that security forces have in fact been responsible for the rape, torture and murder of locals. The investigation proved that 13 people were murdered and thousands of livestock –on which many local livelihoods depend- were killed or maimed (Roe et al., 2014). In reality, this so- called "war on poaching" can prove to be dangerous to local civilian populations, like any other war. According to Moreto et al (2016) this may also create conflicts and negative attitudes towards rangers and hence constrain collaboration for improved law enforcement.

As highlighted by Henson et al (2016), a key law enforcement strategy involves strengthening the capabilities of management to respond to emerging threats. This includes improvement planning and response as well as capacitation in terms of modern equipment and technologies. The use of new technologies to support government efforts in the fight against IWT is on the rise globally. These include the use of camera traps, collaring devices lined to satellite-tracking technology, conservation drones amongst others. The use of these technologies increases efficiency and effectiveness in the monitoring of endangered wildlife species and enhances the capability to act quickly in response to alerts from the technologies. The costs of acquisition and maintenance of these technologies are the key challenges. Additionally, there remains a digital divide regarding access and use of these technologies with potential for increasing fear and tensions with forest dependent communities (Sherstha and Lapeyere, 2018).

The ability to gather intelligence, carry out operations, investigations and prosecutions is a key law enforcement component (van Uhm and Moreto, 2017). These actions target site level infringements such as poaching but also anti-trafficking activities of criminal networks. According to Salum et al (2018), effective wildlife law enforcement requires well-functioning and efficient prosecution outcomes to punish offenders but unfortunately authorities and courts function poorly and prosecution of wildlife is not prioritised. According to Bamwine (2019) successful prosecution of wildlife crimes requires high quality crime scene evidence and intelligence as well as strong awareness and mastery of the wildlife regulations to be able to sanction cases accordingly. This also requires coordination between magistrates, conservation agencies, traditional law enforcement agencies such as the police and other stakeholders involved in law enforcement such as local and international NGOs (Salum et al, 2018). Evidence from Conservation Justice (2020) through its ALFF/ALEFI project as well as the EAGLE network[6] demonstrate best practices in collaborative law enforcement efforts where NGOs work hand in hand with law enforcement agencies and the judiciary to punish offenders.

5. CITES official website: https://cites.org/eng/disc/how.php
6. https://www.eagle-enforcement.org/

In addition to inadequate sanctions, prioritisation of wildlife law enforcement within the judiciary, corruption is a key underlying challenge for law enforcement. According to Bamwine (2019) and the European Union (2005), corruption within enforcement agencies disrupts efforts to address wildlife challenges. Wittig (2016) suggests that corruption is used by criminal networks to facilitate operations of both specialised and opportunistic wildlife trafficking. In view of van Uhm and Moreto (2016), it negatively affects enforcement through reducing effectiveness by taking scarce resources away from departments in charge of law enforcement. Additionally, they argue that corruption is also used to help dilute sanctions and consequently non-compliance is incentivised leading to increased repeat offending.

Non-regulatory solutions and tools

As highlighted in the previous section, policy responses to the IWT have been predominantly regulatory (Challender et al., 2015). However, it has been clear that regulatory solutions are never enough to face IWT, especially with contextual factors, such as the rising demand on high-value wildlife species and commodities, as well as the increased poverty of the local communities in source countries, where the livelihoods of many people depend largely on the natural resources from the nearby forests.

This is why, since the beginning of the 1980s, the purely regulatory approaches to nature conservation have been increasingly challenged, and gradually replaced, or rather complemented with, "community-based conservation approaches". These approaches rather go beyond law enforcement and use diverse tools, focusing especially on involving the local communities in the efforts to fight illegality. Community- based approaches do not only focus on conservation, but they also take into account other important considerations like sustainable development, poverty alleviation, local communities' rights to manage lands and natural resources and so on (Buchenrieder and Balgah, 2013). However, these approaches still attract far less attention and investment from different stakeholders, as the local community tends to be perceived as part of the problem rather than a part of the solution (Biggs et al., 2017).

Engagement with the local communities

Many studies conducted in the global South, especially in Africa, show that most of the costs related to illegal harvesting and trade in wildlife is actually endured by the local communities living near national parks or protected areas (Wicander and Coad, 2018; Biggs et al., 2017). These costs increase especially when these activities affect their ability to meet their cultural, subsistence, economic needs or when there are cases of Human- Wildlife Conflict (HWC). Increasing the role of communities in the fight against IWT requires options that make the total benefits of wildlife monitoring and conservation higher than its costs for local communities. Community based conservation approaches for instance seek to achieve "conservation outcomes including reduced poaching- predominantly either by increasing the financial benefits individuals receive through conservation, increasing the opportunity cost of behaviours that are incompatible with conservation or by installing normative compliance through providing public goods" (Biggs et al., 2017).

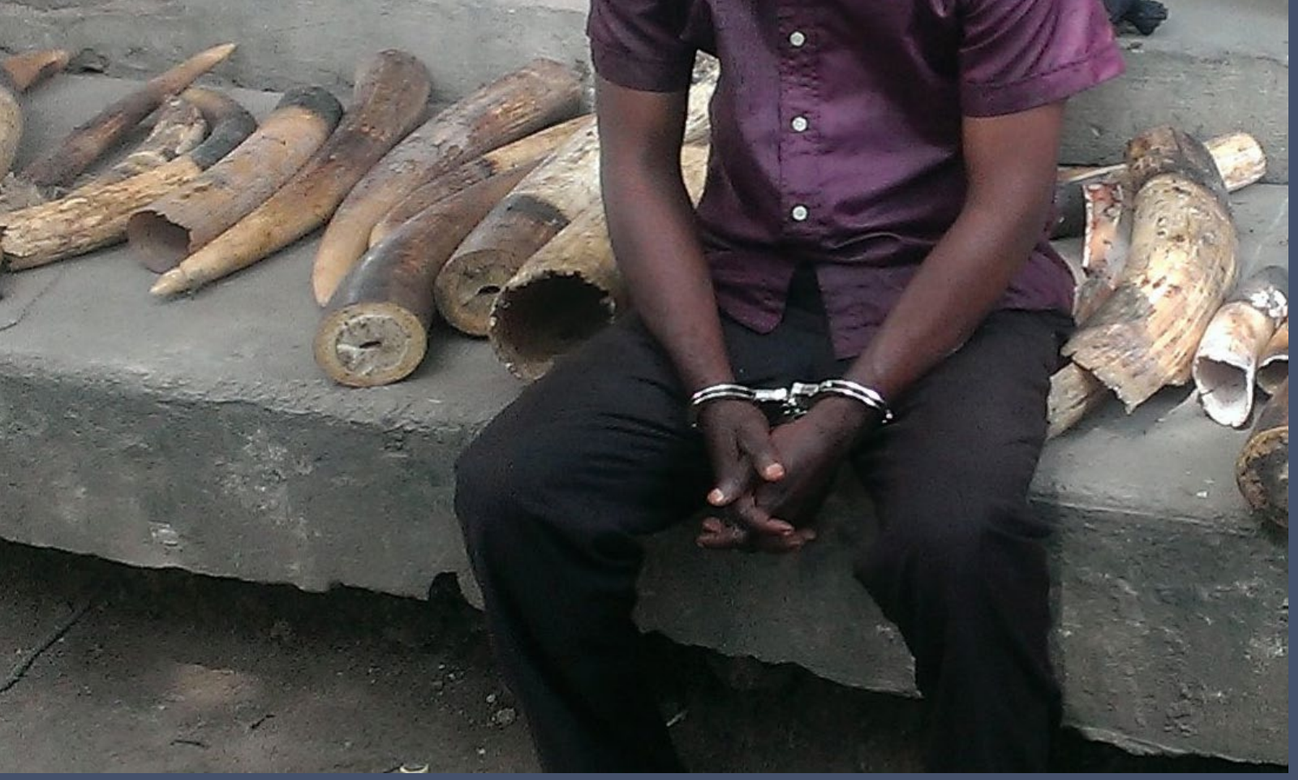
Using TEK in conservation efforts

Before the introduction of modern technology in conservation efforts, conservation efforts relied heavily on Traditional Ecological Knowledge (TEK). This type of knowledge and practices allowed local communities, through experiences passed over generations, to conserve the available resources in the forests for the future generations. While some studies argue that TEK is primitive, less empirical, largely subjective, and relies on oral histories, folklore, and spiritual beliefs transmitted between generations; other studies suggest that this traditional knowledge can indeed be complementary to science (Sherstha and Lapeyere 2018; and Moller et al, 2004). Recent research argues that incorporating traditional knowledge into wildlife monitoring and other conservation efforts, do not only increase their effectiveness, but also decrease conflict, and promote a healthy relationship between conservationists (from the government or from NGOs) and the local community members(Sherstha and Lapeyere 2018). In fact, this explains the motivation to recruit rangers and guides from within communities around protected areas.

Increasing benefits of conservation for the local communities

Increasing benefits for communities has been widely reported as a key bottom up approach to addressing the problems of IWT under the Community- Based Natural Resource Management or (CBNRM) paradigm. Effective awareness raising campaigns about legislations and negative impacts of IWT on the local communities is far from enough. CBNRM approaches provide incentives to abandoning wrong practices amongst communities but also creating enabling conditions for local communities to manage their natural resources responsibly and sustainably (UNODC, 2020).

Various other approaches have been tried and tested in different contexts. For instance, through strengthening community ownership rights and their capacity to use and manage benefits from wildlife, creating room for the traditional cultural practices in the conservation activities, and securing jobs for some of the local community members as park rangers or community guards or other nature-based tourism enterprises (Biggs et al., 2017). In Botswana, Mbaiwa and Stronza (2010) demonstrate that tourism development increases the value of wildlife to communities through improved rural livelihoods and conservation outcomes. Case study evidence from Niger and Nigeria effectively demonstrates that benefits provide the motivation for local communities to become more actively involved and committed to wildlife conservation (Roe and Jack, 2001).However, while evidence shows that improved wildlife conservation policy outcomes are related to community engagement, a threshold of community members need to be involved as well as strong mechanisms for transparency and accountability in the access and benefit sharing (Biggs et al., 2017).



Community-led monitoring and surveillance for Protected Areas (PAs)

Forest dependent communities suffer the most from unsustainable management of biodiversity in their communities. Hence, they have the greatest stake in promoting responsible management of the resources. In this direction, communities have a role in working with other actors such as state and civil society as partners in law enforcement.

An example of success is the Mali Elephant project, which managed to establish voluntary patrols from the members of the local community, to monitor the elephant population and detect any poaching happening within the PA; as well as to set up community- based management of natural resources and land use, from all different local ethnic groups. According to this set-up, the rules for resource use are set by a representative committee of elders, and enforcement is ensured by patrols of young men – the "Brigades de Surveillance"– who can call on the support of government forest officials (Roe, 2015).

In many cases, the local populations are the best placed to know what is going on the ground in their neighbourhood. Here, the involvement of the local communities can serve two main purposes: they can be the "eyes and ears" of the formal law enforcement agencies, they can also apply social and informal sanctions to the community members who take part in any illicit activity. Mechanisms for reporting this should be easily accessible, allow anonymity and safety for those who report any information (Biggs et al., 2017). Additional evidence from the EAGLE network in Africa demonstrates the role of community networks and informants in independent monitoring of wildlife and enforcement through investigations, arrest operations including national law enforcement (Mbzibain and Nkuintchua, upcoming). Civil society organizations managed, successfully, to establish networks of local informants, willing to use technologies, like smart phones, to report violations they witness in their communities in cases of forestry or wildlife crimes, to the duty bearers (local authorities and local law enforcement agencies) and other civil society monitors (European Union, 2005). Hence, such technology has contributed in increasing the role of communities in monitoring and denunciation of cases of illegal activity (CIDT, 2020).An important thing to note here, is the importance of providing fast, well equipped and strong back-up force from the competent authorities, with the power to arrest perpetrators and stop them in cases of violence, given the increasingly militarized nature of some IWT activities particularly poaching, as we have highlighted previously.

Compensation as a policy tool to face IWT resulting from Human-Wildlife Conflict

The feeling of being negatively affected by wildlife can lead members of the local communities to feeling anger and resentment towards wildlife and all conservation efforts. It can also lead to retaliatory or reactive poaching (Biggs et al., 2017; Dickman, 2010). Compensatory approaches have been associated with efforts to curb illegal activity and trade in wildlife but also human-wildlife conflicts, where heavy losses are caused by wild animals to crops, livestock and/or even human lives.

In order to address the issue of loss or reduction of livelihoods because of conservation activities, some governments, such as the Indian Government, have implemented for decades now, a policy of financial compensation for livelihood losses resulting from Human- Wildlife Conflict. This compensation policy mitigated the economic losses as well as promoted tolerance for conservation activities among local communities of forest-dwellers (Johnson et al. 2018).

From an economic point of view, this compensation policy may also have a negative influence on conservation efforts. This is driven by the simple insight that compensation payments in rural and forest-adjacent communities may actually encourage them, unintentionally, to expand their agricultural and/or livestock rearing activity, which will eventually lead to the expansion of available lands for these activities. This may lead, if not well- monitored by the authorities, to the loss of habitat for wildlife. Hence, some compensation programmes, if not well- studied, may lead to a trade-off between wildlife mortality due to hunting and habitat loss (Bulte and Rondeau, 2005).

Though this policy has proven generally effective in some protected areas, studies also demonstrate that it has many limitations, and sometimes even fail to meet its objectives. On the one hand, some studies show that, historically, the compensation policy design has been, for decades, solely focused on the damaged caused by large, charismatic and more attractive protected species, like elephants or tigers. While in fact, it ignores the loss of crop, livestock or even human death or injury caused by other sorts of smaller or less charismatic species. All of these losses are perceived by some of the forest communities as "not worth reporting", because they will not be eligible for compensation (Johnson et al. 2018).

On another note, this policy implies a high risk of corruption, mismanagement of funds, and complicated bureaucratic procedures in its implementation. Complicated bureaucratic procedures and the lack of state supervision on its civil servants working in the compensation program, can have a negative consequence on the overall policy, and make local communities perceive the state as unwilling to address the true social and economic costs of conservation, and putting pressure on marginalized rural communities. On the other hand, the complexity of governmental procedures can also be a pressure on the local communities, since most of them have limited access to state services, education and formal governmental processes in general. They may find it hard to provide proof that wild animals are responsible for their loss of crops or livestock, they may as well find it hard to navigate the system altogether. This is when the losses remain unreported, but the local sentiment of injustice and frustration increases (Johnson et al., 2018). Where successful, this approach dissuades communities from overexploitation of forestry resources, overkilling of wildlife and/or engagement in illegal activity. In addition to financial compensation, other intervention tools can be also used to mitigate the risk of economic losses by wildlife, such as the construction of fences or other physical barriers to keep animals away from crops or livestock, insurance schemes for any damage caused by wild animals, and even control for problem wild animals (Biggs et al., 2017). Unfortunately, the use of fences has not always been successful for large animals such as elephants which always find ways to bypass or breakdown the fences.

Alternative livelihood projects

Bush meat is considered as one of the main sources of animal protein and an important source of income for the forest-dwellers. For example, in Cameroon, Ivory Coast and Liberia, sections of the population, mostly forest-dwellers, depend on bush meat to cover up to 70% of their protein needs (Buchenrieder and Balgah, 2013). On the same note, other studies have proven that bush meat is not only used by forest-dwellers as famine food, but its demand also comes from the growing urban populations who, having access to domestic meats, consume wild meat as luxury goods (Van Vliet and Mbazza, 2011). The need for animal protein by forest dependent communities, as well as increasing demand from urban and international markets for different reasons, is a major driver of illegal harvesting and trade of wildlife.

Having said that, the provision of alternative protein and other income-generating activities is one of the most widely used policy options in source countries to reduce bush meat consumption and trade on the community level. The main objective of this type of policy is to introduce or strengthen the existing low-cost, easily implementable projects, which have low- environmental impact, and can supply the local communities with the necessary source of meat or an alternative source of income. Many such alternative livelihood projects have been implemented in West and Central Africa, and they remain a major focus of governments in this region. Examples of such project can be found, for example, in Kenya as the Anne Kent Taylor Fund (AKTF) assists the Massai communities in finding opportunities for economic development, linking them with conservation efforts. The AKTF loans the women's groups from the community start-up funds to buy supplies and produce items for the market (mainly beaded accessories), which Anne Kent sells in the U.S. and in local tourist markets. On the other hand, AKTF supports de-snaring/anti-poaching teams comprised of young Maasai men from the same communities. The involvement of both women (as accessory makers) and the men (in the de-snaring/anti-poaching patrols) provides broad based financial incentives for Maasai communities to conserve wildlife (Van Vliet, 2011).A similar example can be found in Burundi, in the framework of the Ruvubupark Biodiversity Conservation project, which offers chances for the local community to generate more income/protein production

through cattle rearing and beekeeping, to replace poaching. The project implementers chose to provide local community with these two activities at the same time, as villagers in the region already had experience in both. Beekeeping will allow them to generate income on the short term, while their herds developed on the longer term (Wicander and Coad, 2018).

Still, it is necessary to highlight that the provision of alternatives does not always lead to a reduction in illegal poaching or trade of wild animals. In the case of promotion of small livestock projects, cultural believes, community and urban dietary habits and preferences towards bush meat limit their success (Carla et al., 2015). Failure in some cases is also due to the lack of regular monitoring and imposing sanctions on those who participate in these alternative livelihoods project but still resort to poaching and trade from time to time. A further analysis of the participants of these projects indicate that the alternative livelihoods projects' capacities are limited compared to the number of hunters in the local communities. According to some researchers, these projects tend to attract more women with limited or no income, or elderly hunters who are looking for ways to diversify their income and "retire" from business, rather than fully active, commercial hunters who represent a real threat to the environment (Wicander and Coad, 2018).

Increasing the costs of participation in IWT

Recent evidence suggests that science can be used to devalue certain wildlife products such as infusing rhino horns with chemicals (Ferreira et al., 2014) such that it disincentives illegal actors from killing the animals. Law enforcement is a key deterrent through increasing detection, arrest and prosecution of presumed illegal cases. Some countries in sub-Saharan Africa, for Gabon, the new Law n°042/2018 of 5 July 2019 on the Penal Code increased the penalties for ivory trafficking to a maximum of 10 years in prison, this penalty being doubled in the event of aggravating circumstances (organized gangs, transnational offences, persons holding public authority, including professionals in the Water and Forests and Wildlife sectors). However, the most commonly used way in deterring IWT and increase the costs associated to it is through law enforcement. As mentioned in the previous section, most of this law enforcement is state-led; but recently, there have been some private organizations involved in that too, including large, highly trained and well-equipped international conservation organizations. This increases the probability of detection and capture of perpetrators, and the chances of their prosecution and sanctioning. It is worth mentioning that arrest and prosecutions are not sufficient. Recent research conducted on wildlife crimes in Uganda suggests that sometimes state-led law enforcement can have a negative impact on the local communities, as it may increase their sense of perceived injustice. It is most likely that those involved in profitable commercial wildlife trade will be able to either pay the due fines or pay bribes to avoid prosecution; while those involved in subsistence wildlife crimes will not be able to afford paying the fines and will either have to face imprisonment or will have to sell lands or lose other important sources of income of their already poor family to pay the fines (Harrison et al., 2015).

Therefore, the application of deterrent sanctions particularly through dismantling criminal networks and fines/seizures of accumulated income and assets could further increase costs and deter engagement in illegality. It should, however, pay attention in the differentiation between commercial wildlife hunters and smugglers, and those who were involved in that type of crimes for lack of other sources to obtain necessities like food or firewood.

Advocacy pathways

Advocacy at national and international levels provides an opportunity for concerned actors to bring suggestions to the table and seek to influence policies and processes linked to IWT. At international level, CITES framework remains an important arena as well as Convention on Biological Diversity. Unfortunately, some signatories to the CITES framework, especially source countries, still do not perceive IWT as a serious crime. This is why it is important for civil society organizations, locally and internationally, to hold these governments to account and pressure them to allocate resources to wildlife law enforcement. The aim is not just to make these governments acknowledge IWT as a serious crime worth investing money to fight it, but also to address gaps in legislations, and to ensure serious and strict penalties are imposed on violators, which is necessary for deterrence (UNEP report, 2018).

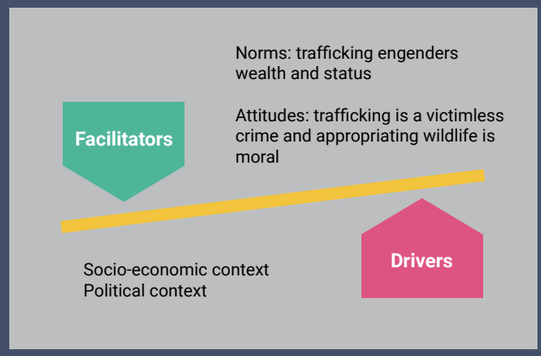
International, regional and national gatherings of policy makers and governments provide unique advocacy opportunities for civil society organisations (Harrison et al., 2015). Innovative advocacy approaches are required backed by evidence to influence decision makers and transform the shape of international relations around the subject of IWT (Humphreys and Smith, 2011).

The place and role of enhancing evidence-based advocacy and decision making

As research on IWT has previously highlighted (Kassa et al., 2019), the true extent, the impact and the volume of IWT is still not fully understood or studied (Oldfield et al., 2003). Even the estimations of IWT vary widely between organizations, mainly due to the lack of accurate data around this phenomenon because of its clandestine nature (United Nations Office on Drugs and Crime - UNODC, 2020). Improved understanding of this phenomenon including its scale, impacts, and drivers could provide policy makers and practitioners with a better understanding and better recommendations on addressing this issue. Research in this area continues to be multifaceted as expected and there have been calls for more collaboration or cross-disciplinary focus (Crayne and Haenlein, 2016).

Past research by conservation biologists recommends greater unpacking of how the overexploitation of a certain species affect the entire ecosystem in which it exists (UNODC, 2020). On the social and economic levels, the impact of alternative livelihoods projects on local communities and their effectiveness in reducing IWT remains understudied (Coad 2018). Much has been written about Human Wildlife Conflict (HWC) as a driver of IWT, yet Dickman (2010) argues that better understanding of community attitudes and their actions faced with the impacts of wildlife particularly on their livelihoods requires further understanding. In this direction, recent studies by Harrison et al (2015) and Kassa et al (2019) focus on the drivers and facilitators of this trade.

Figure 1: Facilitators and drivers of IWT



Source: Kassa et al (2019, p8)

With a focus on Uganda, IIED map out five major drivers of IWT with subsistence and illegal commercial exploitation emerging as the most important drivers followed by retaliation killings. As previously highlighted, some forest-adjacent communities may feel, rightly or wrongly, that they are carrying the heavier burden of conservation and respecting biodiversity, without being properly compensated by the authorities. There is also an important cultural and traditional element in the drivers for wildlife crimes, as most of the medicinal plants, and animals used in traditional medicine remain in the protected areas or within timber or other extractive industry concessions. These findings are supported by findings from Harrison et al (2015), who show that the politicisation of access to protected areas by politicians promotes encroachment and incursions into these areas. In addition to these factors, Kassa et al (2019) focus on the demand and attitudes towards wildlife. As mentioned earlier, global demand for IWT is driven by increasing Asian middle-class markets where wildlife and wildlife products portray images of wealth and status. Increasing use of these products for traditional medicine promote the demand for these products. In supply countries, this is facilitated by the fact that appropriating wildlife is seen as moral and a "victimless crime". This situation is further facilitated by lack of tourism in many cases to increase the value of wildlife to communities (Ondoua et al., 2017; Bouche, 2012)

Underlying these drivers are the socio-political, economic, governance and legal contexts in which IWT takes place (Bouche et al., 2012; Kassa et al., 2019). What emerges overall in the IWT research sphere is the focus on the role of international conservation agencies, governments and illegal crime networks while the role of national NGOs and community based organisations particularly in Central Africa remains curiously limited in the fight against IWT (Mbzibain and Ongolo, 2019). Additionally, considering that a lot of the poaching and illegal activities take place in forest concessions, the direct or indirect role of forest exploitation companies (Rayden and Essono, 2010) has curiously received little attention from academic role of private sector companies (Karsenty and Ferron, 2017). Further support to addressing the complex links between communities, private sector operators in extractive industries, international conservation NGOs but also linkages with traditional law enforcement agencies could strengthen law enforcement (Conservation Justice, 2019). The complexity of this subject requires significant cross-disciplinary collaboration at multiple levels to ensure that information and evidence generated is comprehensive enough to provide practical policy recommendations that can help curb the catastrophic impacts of this global crime (WWF, 2016). Recent initiatives such as the TRAFFIC Trace initiative[7] which promotes the use of forensic science in biodiversity conservation and the investigation of wildlife crime provide opportunities for forensic scientists and enforcement agencies to exchange information on the latest challenges facing wildlife law enforcement and modern techniques for tackling them. Independent forest and wildlife monitoring projects[8] which bring together multi-stakeholders under environmental crime working groups in source countries also represent fora where evidence and information can be used by decision makers to strengthen law enforcement. This is however challenging where governance is poor and where the political will to address wildlife crime is low.

Managing demand

As mentioned earlier, demand for wildlife products is a key driver of IWT. Consumption of bush meat is highly important for livelihoods and in some cases represent the only source of available protein and income(Oldfield et al., 2001; Van Vliet, 2011; Buchenrieder and Balgah, 2013).Wildlife products have a spiritual and medicinal values in many cultures (Van Vliet, 2011). From every indication, the fight against IWT cannot be achieved only by regulatory or policy interventions as evidence suggests sometimes imposing new restrictions on the supply tends to drive the demand into the illegal market (Drury, 2011; Oldfield et al., 2003). Finding other complementary means to reduce demand for products becomes critical.

Awareness raising

Awareness raising can play a strong role in decreasing individual demand. For example, demand on rare types of amphibians as exotic pets has significantly declined in the USA and Europe after strong awareness-raising campaigns (UNEP report, 2018). A similar number of campaigns have been recently initiated also in countries in Asia, which have been identified as countries with high demand on wildlife products, mainly China, Vietnam, and Thailand (iThink toolkit, 2016). These campaigns aim, globally, at creating awareness among people about the harmful impacts of wildlife products consumption on nature; as well as to inform them about the illegality of this act, and to alter their perception about their consumption by questioning the products' value as symbol of wealth or power. In that context, most of these campaigns work on shaping strong messages to their targeted audience and circulating them through

7. https://www.tracenetwork.org/
8. https://cidt.org.uk/advances-in-independent-forest-monitoring-are-bringing-change-to-the-forests-of-the-congo-basin/

mainstream or social media. Such campaigns must be based on evidence and improved understanding of the behaviours and motivations of different stakeholder groups involved along the chain.

In her article on urban consumer demand for wild animal products in Vietnam, Drury (2011)found that escalating demand was driven by growing urban middle and upper classes in Hanoi (the capital city) and other towns. This included the consumption of various species like bears, crocodiles, serpents, soft-shelled turtles, deer and wild pigs. Another study showed that exchanging artefacts made of ivory between business colleagues in China was considered as a valuable currency in the economy of social relationships, as it reflected fine taste, high social status and a certain value for tradition and history (WWF, 2016). Drury has argued that limited understanding of consumers' motives and patterns of behaviour is a key factor which limits the effectiveness of information and awareness campaigns.

Successful campaigns have to carefully define their target audience and conduct an in-depth multi-disciplinary research to understand their social, cultural context, and even their underlying psychological motivations (iThink toolkit, 2016).

Another trend in conducting awareness campaigns have been identified by World Wide Fund for Nature (WWF), focuses on the psychosocial motivations of wildlife products' consumptions, and simply working to change their behaviour through "redirecting" their desires into new ways of thinking and acting. It is important to identify and propose alternatives practices that may fill consumers' core needs without harming wildlife and the environment (WWF, 2016). An example of that is the use of cattle bones instead of ivory and other tusks of protected species in the making of souvenirs and handcrafted objects. Skilful artisans can carve and shape objects to make them resemble their true origins, to the point that these objects made out of cattle bones often appear in wildlife forensic casework (Sims et al. 2011).

Conclusion

The objective of this information note was to explore the various tools available to policy makers and practitioners regarding the fight against IWT. The COVID 19 global pandemic provides a stack reminder of the global impacts of illegal wildlife trade and the need for global multi-stakeholder engagement to address the problem. The paper shows that focus on regulatory solutions and law enforcement alone, is not enough, and it can sometimes even prove counterproductive. While the enactment of recent Chinese ban on trade represent significant reactive regulatory efforts to fight this crime, the need for more proactive forward-looking regulations and effective law enforcement remain central to the battle against IWT. As sophisticated criminal gangs get involved in IWT, evidence shows that green militarisation becomes a key strategy which includes using military principles in law enforcement. In areas of state failure and conflict, the use of traditional law enforcement officials such as the military is increasingly being employed to fight back armed groups. This requires investments in advanced technological innovations and equipment, such as drones, cameras and other monitoring equipment, to monitor protected areas and track down perpetrators, not to mention the need to train their law enforcement agents on the use of all this new technology and forensic science. Unfortunately, this paper shows that many source governments have enacted legislative frameworks but lack the capabilities to monitor and ensure compliance with existing regulations. In many cases, decision-makers and law enforcers do not perceive poaching or illegal trade in wildlife products as a priority crime to begin with. The situation is further exacerbated by systemic corruption and other social political and governance failures. Significant focus must be on fighting and exposing corruption at all levels and for securing the necessary capabilities to combat poaching and subsequent trafficking of wildlife and wildlife products.

With the failure of traditional regulatory and law enforcement options, complementary solutions which focus on working with communities on monitoring and livelihoods, civil society awareness raising and advocacy at national, regional and international levels need strengthening. Excellent cases studies from the Eagle network which works with communities and law enforcement agencies through community mobilisation, investigations, arrests, prosecutions and media campaigns to name and shame traffickers represent successful and tested models to be scaled up. In any this requires the political will of authorities to work collaboratively with civil society organisations which unfortunately is not always the case.

Multi-stakeholder collaborative research and evidence is critical in informing policy decision making but also providing the ammunition required by civil society for research informed advocacy campaigns. Improving transparency in the sector through fight against corruption, community monitoring and use of citizen technologies provide opportunities for naming and shaming and exposing the modus operandi of criminal networks operating in the area. Linking national advocacy efforts to global governance frameworks such as CITES provide additional frameworks for addressing the underlying drivers of this trade.

References

Andersen, K.G., Rambaut, A., Lipkin, W.I. *et al (2020)*The proximal origin of SARS-CoV-2. *Nature Medicine*, 26 (2020), 450–452, https://doi.org/10.1038/s41591-020-0820-9

Ash, Neville et *al*. (2014), *Analysis of the environmental impacts of illegal trade in wildlife,* United Nations Environmental Programme, UNEP/EA.2/INF/28, available online: https://www.unenvironment.org/resources/report/unepea2inf28-analysis-environmental-impacts-illegal-trade-wildlife

Bamwine, F (2019) The efficacy of prosecuting wildlife crimes in Uganda. *Environmental Policy and Law*, 49(2), 181-189. doi:http://dx.doi.org.ezproxy.wlv.ac.uk/10.3233/EPL-190155

Biggs, D., Cooney, R., Roe, D., Dublin, H.T., Allan, J.R., Challender, D.W.S. and Skinner, D. (2017) Developing a theory of change for a community-based response to illegal wildlife trade, *Conservation Biology,* 31(1), 5-12. doi: 10.1111/cobi.12796.

Bitanyi, S., Nesje, M., Kusiluka, L.J., Chenyambuga, S.W. and Kaltenborn, B.P (2012) Awareness and Perceptions of Local People about Wildlife Hunting in Western Serengeti Communities', *Tropical Conservation Science,* 5(2), pp. 208-224. doi: 10.1177/194008291200500209.

Bouché, P., NzapaMbeti Mange, R., Tankalet, F., Zowoya, F., Lejeune, P., & Vermeulen, C. (2012). Game over! Wildlife collapse in northern Central African Republic, *Environmental monitoring and assessment*, *184* (11), 7001–7011. https://doi.org/10.1007/s10661-011-2475-y

Bulte, E and Rondeau, D (2005) Research and management viewpoint: Why compensating wildlife damages may be bad for conservation, *Journal of Wildlife Management,* 69(1), 14-19. doi: 10.2193/0022-541X(2005)069<0014:WCWDMB>2.0.CO;2.

Buchenrieder, G and Balgah, A.R (2013) Sustaining livelihoods around community forests. What is the potential contribution of wildlife domestication?, *The Journal of Modern African Studies,* 51(1), pp. 57-84. doi: 10.1017/S0022278X12000596.

Carla M., Blanca, Y., Leticia, B., Nathalie, V., Cristina, A., Tatiana, S., Mariapaula, Q-M., Daniel, C (2015) Cultural attitudes rather than economic factors are stronger predictors of bush meat consumption and preference among urban Amazonians from Brazil and Colombia, *Ecology and Society*, 20 (2015), 10.5751/ES-07771-200421.

Carter, N.H., Viña, A., Hull, V., McConnell, J., Axinn, W., Ghimire, D and Liu, J (2014) Coupled human and natural systems approach to wildlife research and conservation, *Ecology and Society,* 19(3), pp. 43. doi: 10.5751/ES-06881-190343.

Cashore, B and Stone, M.W (2012) Can legality verification rescue global forest governance?: Analyzing the potential of public and private policy intersection to ameliorate forest challenges in Southeast Asia, *Forest Policy and Economics*, 18 (2012), pp 13-22,https://doi.org/10.1016/j.forpol.2011.12.005.

Challender, D.W.S., Harrop, S.R. and MacMillan, D.C. (2015). Understanding markets to conserve trade threatened species in CITES. *Biological Conservation* 187:249– 259. http://www.sciencedirect.com/science/article/pii/ S0006320715001603

Christy, P (2012), La protection de la faune sauvage au Gabon : mémento juridique, Conservation Justice, available at : https://www.laga-enforcement.org/media/legal_library/Gabon/Legal_Gabon_Book_Analysis_Fr.pdf

CIDT (2020) Advances in Independent Forest Monitoring are bringing change to the forests of the Congo Basin, https://cidt.org.uk/advances-in-independent-forest-monitoring-are-bringing-change-to-the-forests-of-the-congo-basin/

Congo Basin Forest Partnership (2019) CBFP final declaration of Ndjamena International Conference, Jan. 2019.

Conservation Justice (2019) Rapport Mensuel décembre 2019, PROJET D'APPUI A L'APPLICATION DE LA LOI SUR LA FAUNE AU GABON (AALF) http://www.conservation-justice.org/CJ/?p=1416&lang=en

Conservation Justice (2020) Projet d'Appui a l'Application de la Loi sur le Faune au Gabon (AALF), Rapport Mensuel janvier 2020, pp 6. http://www.conservation-justice.org/CJ/?p=1416&lang=en

Crayne, S and Haenlein, C (2016) II. Poaching, Wildlife Trafficking and Conflict, *Whitehall Papers,* 86 (1), 38-57, DOI: 10.1080/02681307.2016.1252124

Dickman, A.J. (2010) Complexities of conflict: the importance of considering social factors for effectively resolving human–wildlife conflict, *Animal Conservation,* 13(5), 458-466. doi: 10.1111/j.1469-1795.2010.00368.x.

Dounias, E. (2016) *From subsistence to commercial hunting : technical shift in cynegetic practices among southern Cameroon forest dwellers during the 20th century.* Available at: http://biblioteca.clacso.edu.ar/gsdl/cgi-bin/library.cgi?a=d&c=fr/fr-001&d=010066791oai.

Duffy, R., St John, Freya A. V, Büscher, B. and Brockington, D. (2016) Toward a new understanding of the links between poverty and illegal wildlife hunting, *Conservation Biology,* 30(1), pp. 14-22. doi: 10.1111/cobi.12622.

Djeukam, R (2012) *La législation faunique camerounaise comme un outil de protection des espèces animales menacées d'extinction au Cameroun*, Ministère des Forêts et de la Faune (MINFOF), Direction de la Faune et des Aires Protégées, Assisté par Last Great Ape Organisation (LAGA), Financé par Arcus Foundation et Born Free Foundation, available at : http://ic.fsc.org/download.annex-b-cameroon-legislation-on-species-protection-fr.431.htm

Drury, R. (2011) Hungry for Success: Urban Consumer Demand for Wild Animal Products in Vietnam, *Conservation and Society,9*(3), 247-257. www.jstor.org/stable/26393047

European Union (2005) LARGER THAN ELEPHANTS- Inputs for an EU strategic approach to wildlife conservation in Africa – Synthesis, https://op.europa.eu/en/publication-detail/-/publication/d5aa8385-7b19-11e7-b2f2-01aa75ed71a1, pp 112.

Felbab-Brown, V (2018) Wildlife and Drug Trafficking, Terrorism, and Human Security, *Prism,* 7 (4), 124-137.

Ferreira, S., Markus, H., Danie, P and Dave, C (2014). Chemical horn infusions: A poaching deterrent or an unnecessary deception?.*Pachyderm*, 55 (2014), 54-61.

Frank, E. G. and Wlcove, D. S (2017) Long delays in banning trade in threatened species*, Science,* 363 (6428), 686-688. DOI: 10.1126/science.aav4013.

Gebreyes, A. W., Dupouy-Camet, J., Newport, M.J., Oliveira, J. B., Schlesinger, L.S., Saif, M., Kariuki, S., Saif, J., Saville, W et (2014) The Global One Health Paradigm: Challenges and Opportunities for Tackling Infectious Diseases at the Human, Animal, and Environment Interface in Low-Resource Settings, PLOS Neglected Tropical Diseases, 8 (11), 1-6.

Gibson, C.C. and Marks, S.A. (1995) Transforming rural hunters into conservationists: An assessment of community-based wildlife management programs in Africa, *World Development,* 23(6), pp. 941-957. doi: 10.1016/0305-750X(95)00025-8.

Government of the United Kingdom (2019) London Conference on the Illegal Wildlife Trade (October 2018): Declaration Policy paper, Updated 28 January 2019. https://www.gov.uk/government/publications/declaration-london-conference-on-the-illegal-wildlife-trade-2018/london-conference-on-the-illegal-wildlife-trade-october-2018-declaration#tackling-the-illegal-wildlife-trade-as-a-serious-and-organised-crime

Harrison, M., Roe, D., Baker, J., Mwedde, G., Travers, H., Plumptre, A., Rwetsiba, A. and Milner-Gulland, E.J. (2015) *Wildlife Crime: A Review of the Evidence on Drivers and Impacts in Uganda.* International Institute for Environment and Development. Available at: http://gateway.proquest.com/openurl?url_ver=Z39.88-2004&res_dat=xri:policyfile&rft_dat=xri:policyfile:article:00179008

Henry, T., Mwedde, G., Archer, L., Roe, L., Plumptre, A., Baker, J., Rwetsiba, A and Milner-Gulland, E.J (2017) *Taking action against wildlife crime in Uganda*. Available at: https://pubs.iied.org/17604IIED/

Henson, D., Malpas, R.C and Floris A.C (2016) Wildlife Law Enforcement in Sub-Saharan African Protected Areas – A Review of Best Practices. Occasional Paper of the IUCN Species Survival Commission No. 58. Cambridge, UK and Gland, Switzerland: IUCN. xxii+65pp. DOI: http://dx.doi.org/10.2305/IUCN.CH.2016.SSC-OP.58.en

Humphrey, C (2020) Billion-dollar wildlife industry in Vietnam under assault as law drafted to halt trading, https://www.theguardian.com/environment/2020/mar/18/billion-dollar-wildlife-industry-in-vietnam-under-assault-as-law-drafted-to-halt-trading accessed 18 Mar 2020

Humphreys, J and Smith, M. L. R (2011) War and wildlife: the Clausewitz connection, *International Affairs (Royal Institute of International Affairs 1944-)* 87(1), 121-142. doi: 10.1111/j.1468-2346.2011.00963.x.

Ithink.org Wildlife Conservation Global Forum and Behaviour Change Campaign Toolkit www.ithink-now.org *Wildlife Conservation Global Forum and Behavior Change Campaign Toolkit www.ithink-now.org*.

Ibrahim, M. (2015) 'Beyond enforcement', *Humanomics,* 31(4), 399-414.

Johnson, M.F., Karanth, K.K and Weinthal, E (2018) Compensation as a Policy for Mitigating Human-wildlife Conflict Around Four Protected Areas in Rajasthan, India, *Conservation and Society,* 16(3), 305-319. doi: 10.4103/cs.cs_17_1.

Karsenty, A and Ferron, C (2017) Recent evolutions of forest concessions status and dynamics in Central Africa, *International Forestry Review*, 19(S2), 10-26, https://www.ingentaconnect.com/contentone/cfa/ifr/2017/00000019/a00204s2/art00002?crawler=true&mimetype=application/pdf

Kassa, S., Costa, J and Camargo, C-B (2019) Corruption and wildlife trafficking: exploring drivers, facilitators and networks behind illegal wildlife trade in East Africa,*Working Paper 30,* Basel Institute on Governance, https://www.baselgovernance.org/sites/default/files/2019-07/WP30_CorruptionandIWT_0.pdf

Kishor, N. and Lescuyer, G. (2012) Controlling illegal logging in domestic and international markets by harnessing multi-level governance opportunities, *International Journal of the Commons,* 6 (2) 255-270. doi: 10.18352/ijc.327.

Lalisa, A. D., Atela, J., Ayana, A., Alemagi, D., Mpanda, M., Nyago, M., Minang, A.P., Nzyoka, M., Foundjem-Tita, D and Ntamag-Ndjebet, C (2018), Community forestry frameworks in sub-Saharan Africa and the impact on sustainable development*, Ecology and Society*, 23 (4) (Dec 2018) https://www.jstor.org/stable/26796867.

Lawson, K and Vines, A (2014) Global Impacts of the Illegal Wildlife Trade: The Costs of Crime, Insecurity and Institutional Erosion. London: Chatham House: The Royal Institute of International Affairs, February.

Lunstrum, E (2014) Green Militarization: Anti-Poaching Efforts and the Spatial Contours of Kruger National Park, *Annals of the Association of American Geographers*, 104 (4), 816-832, DOI: 10.1080/00045608.2014.912545

MacMillan, D, C and Daniel, W.S. (2014) Changing behaviour to tackle the wildlife trade. Frontiers in Ecology and the Environment 12 (4). p. 203.

Madhusudan, M and Shankar, R (2003) Conservation as if Biological Diversity Matters: Preservation versus Sustainable Use in India, *Conservation and Society,* 1(1), 49-59

Maher, J and Sollund, R (2016) Law enforcement of the illegal wildlife trafficking: a comparative strengths, weaknesses, opportunities and threats analysis of the UK and Norway, *Journal of Trafficking, Organized Crime and Security*, 2(1), 82-99

Maisels, F., Strindberg, S., Blake, S., Wittemyer, G., Hart, J., Williamson, E.A., Aba'a, R.G., Amsini, F., Ambahe, R.D., Bakabana, P.C., Hicks, T.C., Bayogo, R.E., et al (2013) 'Devastating decline of forest elephants in Central Africa', *PLoS ONE,* 8(3), 59469. doi: 10.1371/journal.pone.0059469.

Mbaiwa, J. E and Stronza, A. L (2010) The effects of tourism development on rural livelihoods in the Okavango Delta, Botswana*, Journal of sustainable tourism* 18 (5), 635-656

Kaimowitz, D (2003) Director General of CIFOR, at the closing plenary session of the Bonn Conference, May 23, 2003 cited by Sunderlin, D. W (2005) Introduction. *World Development*, 33 (9) 1379-1381. https://doi.org/10.1016/j.worlddev.2005.05.001.

Kerven, D (2019) *Wolters Kluwer*, New York: JPMorgan Chase & Company

Mbzibain, A and Nkuintchua T (upcoming) The dynamics of the NGO – Government relations in the Congo Basin: the case of Independent Forest Monitors. *unpublished*

Mbzibain, A and Ongolo S (2019) Complementarity, substitution and rivalry in the governance of forest monitoring: insights from a governance network analytic perspective in the Congo basin. *Forest Policy and Economics,* 109 (2019), 101981

Nellemann, C.,Henriksen, R., Kreilhuber, A., Stewart, D., Kotsovou, M., Raxter, P., Mrema, E., and Barrat, S. (Eds) (2016) The Rise of Environ mental Crime – A Growing Threat To Natural Resources Peace, Development And Security. A UNEPINTERPOL Rapid Response Assessment. United Nations Environment Programme and RHIPTO Rapid Response–Norwegian Center for Global Analyses, http://www.rhipto.org

Nurse, A (2013) Privatising the green police: the role of NGOs in wildlife law enforcement. *Crime Law Society Change,* 59 (2013), 305–318. https://doi.org/10.1007/s10611-013-9417-2

Oldfield, S (ed.) (2003), *The Trade in Wildlife: Regulation for Conservation*, Earthscan Publications Ltd, New York.

Ondoua Ondoua, G., Moundjim, B. E., Mambo, M, J.C., Jiagho, R., Usongo, L. and Williamson, L. (2017) An assessment of poaching and wildlife trafficking in the Garamba-Bili-Chinko transboundary landscape. TRAFFIC, https://www.traffic.org/site/assets/files/1591/garamba-bili-chinko-xxs.pdf

Rayden, T and Essono, E.R (2010) Evaluation of the management of wildlife in the forestry concessions around the national parks of Lopé, Waka and Ivindo, Gabon. https://africa.fsc.org/preview.evaluation-of-the-management-of-wildlife-in-the-forestry-concessions-around-the-national-parks-of-lop-waka-and-ivindo-gabon.a-27.pdf

Roe, D and Jack, M (2001), *Stories from Eden: Case studies of Community-Based Wildlife Management,* International Institute for Environment and Development, and Stable URL: https://www.jstor.org/stable/resrep01751.4.

Roe, D., Milledge, S., Cooney, R., Sas-Rolfes, M., Biggs, D., Murphree, M and Kasterine, M (2014) *The elephant in the room sustainable use in the illegal wildlife trade debate* International Institute for Environment and Development, https://www.jstor.org/stable/resrep01550.

Roe, D and Booker, F (2017) *First line of defence? A review of evidence on the effectiveness of engaging communities to tackle illegal wildlife trade,* International Institute for Environment and Development. https://www.jstor.org/stable/resrep02668.

Rowcliffe, J.M., de Merode, E and Cowlishaw, G (2004) Do wildlife laws work? Species protection and the application of a prey choice model to poaching decisions, *Proceedings of the Royal Society. B, Biological Sciences,* 271 (1557), 2631–2636. https://doi.org/10.1098/rspb.2004.2915

Salum, J., Eustace, A., Malata, P and Mbangwa, O (2018) Wildlife crime promoted by weak governance, *African Journal of Ecology*, 56(1), 101–108. https://doi.org/10.1111/aje.12424

Shrestha, Y and Lapeyere, R (2018) Modern Wildlife Monitoring Technologies, *Conservation and Society,* 16(1), pp. 91-101. doi: 10.4103/cs.cs_16_83.

Sunderlin, D. W. (2005) Introduction to special edition. *World Development*, 33 (9), 1379-1381, https://doi.org/10.1016/j.worlddev.2005.05.001.

UNODC, World Wildlife Crime Report 2020, United Nations Office on Drugs and Crime, 2020.

Van de Rijt, A (2015) *Community forestry in the DRC: Lessons learned from the Congo Basin* Unpublished.

Van Uhm, D.P and Moreto, W (2017) Corruption within the illegal wildlife trade: A Symbiotic and antithetical enterprise, *British Journal of Criminology*, 58 (2017), 1-22, doi:10.1093/bjc/azx032

Van Vliet, N. (2011) *Livelihood Alternatives for the Unsustainable Use of Bush meat.* Secretariat of the Convention on Biological Diversity.

Van Vliet, N. and Mbazza, P. (2011) Recognizing the Multiple Reasons for Bush meat Consumption in Urban Areas: A Necessary Step Toward the Sustainable Use of Wildlife for Food in Central Africa, *Human Dimensions of Wildlife,* 16 (1), 45-54. doi: 10.1080/10871209.2010.523924.

Van Vliet, Fa, J and Nasi, R (2015) Managing hunting under uncertainty, *Ecology and Society,* 20(3), 7. doi: 10.5751/ES-07669-200307.

Wang, H., Shao1, J., Luo X., Chuai, Z., Xu, S., Geng, M and Gao, Z (2020) Wildlife consumption ban is insufficient, *Science*, 367 (6485) 1435, DOI: 10.1126/science.abb6463

Wicander, S. and Coad, L. (2018) Can the Provision of Alternative Livelihoods Reduce the Impact of Wild Meat Hunting in West and Central Africa, *Conservation and Society,* 16 (4), 441.

Wittig, T (2016) IV. Poaching, Wildlife Trafficking and Organised Crime, Whitehall Papers, 86:1, 77-101, DOI: 10.1080/02681307.2016.1252127

Wittemyer, G (2020) The new coronavirus emerged from the global wildlife trade – and may be devastating enough to end it, http://theconversation.com/the-new-coronavirus-emerged-from-the-global-wildlife-trade-and-may-be-devastating-enough-to-end-it-133333 accessed March 31, 2020

World Wildlife Fund (2016) Reducing desire for ivory: Psychosocial guide to address ivory consumption, available at: https://www.worldwildlife.org/publications/reducing-desire-for-ivory-a-psychosocial-guide-to-address-ivory-consumption.

Worboys, G.L., Lockwood, M. and Kothari, A. (2015) *Protected Area Governance and Management.* Canberra: ANU Press.

More Information

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